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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/560,469	04/28/2000	JOSEPH A FERNANDO	UNF-9058-A	3786
23575	7590	01/17/2007	EXAMINER	
CURATOLO SIDOTI CO., LPA			LEUNG, JENNIFER A	
24500 CENTER RIDGE ROAD, SUITE 280			ART UNIT	PAPER NUMBER
CLEVELAND, OH 44145			1764	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE		DELIVERY MODE	
3 MONTHS	01/17/2007		PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/560,469	FERNANDO ET AL.
	Examiner	Art Unit
	Jennifer A. Leung	1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 02 May 2006.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,2,5-13,16-27,41-44 and 47-57 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,2,5-13,16-27,41-44 and 47-57 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment submitted on May 2, 2006 has been received and carefully considered. The changes made to the specification are acceptable. The declaration of Joseph A. Fernando under 37 CFR 1.132 filed on May 2, 2006 has been received and carefully considered. Claims 3, 4, 14, 15, 28-40, 45 and 46 are cancelled. Claims 47-57 are newly added. Claims 1, 2, 5-13, 16-27, 41-44 and 47-57 are under consideration.

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-2, 5-13, 16-27, 41-44 and 47-57 are rejected under 35 U.S.C. § 103 as being unpatentable over Robinson et al (5,580,532) in view of Sasaki et al. (JP 07-286514) and Johnson et al. (GB 1,481,133).

Robinson et al. discloses a device **10** for the treatment of exhaust gas comprising: a housing **12** and a fragile structure **18** mounted within the housing **12**, a support element **20** disposed between the housing **12** and the fragile structure **18**, said support element comprising an integral, non-expanding sheet of polycrystalline ceramic fibers containing alumina and silica, said fibers having an average diameter of 1-10 microns. Robinson et al. further discloses ceramic fibers having an alumina content from about 40 wt. percent to about 60 wt. percent, and a silica content from about 60 wt. percent to about 40 wt. percent (see column 5, lines 50-64).

The apparatus of Robinson et al is substantially the same as that of the instant claims, but Robinson et al. is silent as to the ceramic fibers of the support element **20** having the instantly

claimed physical properties; i.e., whether the fibers are heat treated to the extent to obtain the recited crystallinity and crystallite size.

However, it appears that the claim is a product-by-process claim, and when the patentability of a product-by-process claim is determined, the relevant inquiry is whether the product itself is patentable. *In re Brown*, 459 F.2d 531,535, 173 USPQ 685,688 (CCPA 1972). If a product is the same as or would have been obvious to one having ordinary skill in the art from a product of the prior art, the product is unpatentable even though the prior art product was made by different process. *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). Because the product of the instant claims is substantially the same as the product of Robinson et al., it is unpatentable even though the product of Robinson et al. may be made by a different process.

In any event, Sasaki et al. teaches the provision of a ceramic fiber mat disposed between the catalyst and a housing, in which the ceramic fibers have been heat treated at a temperature of 1300 °C in 4 hours to produce a crystalline structure having from 0-10 % crystallinity, as determined by x-ray diffraction. Furthermore, Johnson et al. illustrates the conventionality of heat-treating ceramic fibers at a temperature range from 950 °C to 1050 °C for 10 minutes to one hour, which produces a ceramic fiber having a crystalline size of less than 200 angstroms. It would have been obvious to one having ordinary skill in the art at the time the invention was made to heat the ceramic fibers in the catalytic converter of Robinson et al. to obtain a crystalline structure with the specific percentage of crystallinity as taught by Sasaki et al. and the specific crystallite size as taught by Johnson et al., if not already inherent therein, since the crystalline form of the ceramic fibers provides good resiliency which is required in mounting the ceramic

fibers into the catalytic device. Please also note that the specified residual pressure of the support element in the modified apparatus of Robinson et al. would be an inherent property of the support element.

With respect to claims 41-44, the use of needle punching to hold the ceramic fiber mat is well known in the art as evidenced by Sasaki et al.

***Response to Arguments***

3. Applicant's arguments filed May 2, 2006 have been fully considered but they are not persuasive. Because the arguments presented in the response are essentially a repeat of what has been presented in the filed declaration, the Examiner will address the content of the declaration.

The declaration of Joseph A. Fernando under 37 CFR 1.132 filed May 2, 2006 is insufficient to overcome the rejection of claims 1, 2, 5-13, 16-27, 41-44 and 47-57 under 35 U.S.C. 103(a) as set forth in the last Office action. Firstly, it appears that in the declaration (and similarly in the response), Applicants have made arguments against each of the applied references individually. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In any event, the Examiner will further address Applicants' piecemeal analysis of the references.

**Under item 9 of the declaration:**

Although U.S. Patent No. 5,580,532 may be silent as to the specific properties of crystallinity and crystallite size for the ceramic fibers used in forming the support element 20, the instant claim is a product-by-process claim and when the patentability of a product-by-process claim is determined, the relevant inquiry is whether the product itself is patentable. *In re Brown*,

459 F.2d 531,535, 173 USPQ 685, 688 (CCPA 1972). If a product is the same as or would have been obvious to one having ordinary skill in the art from a product of the prior art, the product is unpatentable even though the prior art product was made by different process. *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). Because the product of the instant claims is substantially the same as the product of Robinson et al., it is unpatentable even though the product of Robinson et al. may be made by a different process. In any event, Robinson et al. indicates that the ceramic fibers used for forming the support element 20 may be produced according to the process taught by U.S. Patent No. 4,159,205 to Miyahara et al., which was specifically incorporated into the disclosure of Robinson et al. by reference (see column 5, lines 50-64 of Robinson et al.). [Note: Miyahara et al. was previously cited in Applicants' IDS].

Looking to Example 9 and Table 5 of Miyahara et al., for instance, we see that the ceramic fibers are prepared by a process including heat treating said fibers under a time-temperature regimen comprising heat-treating said fibers at a temperature of 1250 °C for 30 minutes, and then a temperature of 1500 °C for 24 hours (see column 7, lines 20-44). In general, the fibers may be heated to a high temperature, e.g., between 700 °C and about 1500 °C, to produce a polycrystalline fiber (see column 3, lines 25-37; see also column 2, lines 43-47). Because the time-temperature regimen as taught by Miyahara et al. is within the time and temperature range of the instantly claimed regimen, one having ordinary skill in the art would have expected the claimed crystallinity and crystallite sizes to be inherent properties of the ceramic fibers employed by Robinson et al. for the support element 20. A newly discovered property does not necessarily mean the product is unobvious, since this property may be inherent in the prior art. See *In re Best* 195 USPQ 430 (CCPA 1977); *In re Swinehart* 169 USPQ 226 (CCPA 1971).

Under item 10 of the declaration:

Please note that the claimed ratio of alumina to silica was disclosed by the primary reference to Robinson et al. The Sasaki et al. reference (JP 07-286514) was merely relied upon as a secondary reference to show that ceramic fibers that are heat-treated according to the claimed time and temperature regimen will produce a crystalline structure having from 0-10 % crystallinity. In any event, although Sasaki et al. indicates that alumina to silica ratios outside the range of 70:30 to 74:26 are not preferred, please note that non-preferred embodiments still constitute prior art. Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use. *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994).

Under items 11-15 of the declaration:

In response to applicant's argument that Johnson et al. (GB 1,481,133) is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Johnson et al. and Robinson et al. are similarly concerned with the particular problem of providing a flexible and stable ceramic fiber for use under high-temperature applications. Furthermore, the Johnson et al. reference was merely relied upon as a secondary reference to show that ceramic fibers that are heat-treated according to the claimed time and temperature regimen will produce a crystallite

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size within the instantly claimed range. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

*Conclusion*

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

\* \* \*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer A. Leung  
January 8, 2007 *jl*



Giann Calderola  
Supervisory Patent Examiner  
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